

<p>2001-095138/11 A97 D25 (A25) KAOS 1999.04.14 KAO CORP *JP 2000297298-A 1999.04.14 1999-106815(+1999JP-106815) (2000.10.24) C11D 17/06, 1/40, 1/52, 1/62 Group of high bulk density particles, useful for detergent composition C2001-028511</p>	<p>A(12-W12A, 12-W12B) D(11-A1B1, 11-A2, 11-A2B, 11-A2B1, 11-A3A, 11-B11, 11-D, 11-D1)</p>
<p>NOVELTY Group of high bulk density particles for detergent composition useful for washing in any conditions.</p> <p>DETAILED DESCRIPTION Group of high bulk density particles comprises group of high bulk density particles with bulk density of at least 500 g/L, mean particle diameter of 150 - 500 µm and a surfactant of formula (1) - (4) wherein the total of group with mean particle diameter of at least 710 µm and group with mean particle diameter of up to 125 µm are contained in up to 10 wt.% of the total.</p>	<div style="display: flex; flex-direction: column; align-items: center;"> <div style="display: flex; justify-content: space-around; width: 100%;"> <div style="text-align: center;"> $\begin{array}{c} R^2 \\ \\ R^1-N^+-R^3 \\ \\ R^2 \end{array} \quad X^- \quad \begin{array}{c} R^2 \\ \\ R^1-N^+-R^3 \\ \\ R^3 \end{array} \quad X^-$ <p>(1) (2)</p> </div> <div style="text-align: center;"> $\begin{array}{c} R^2 \\ \\ R^1-N^+-R^2 \\ \\ R^2 \end{array} \quad X^- \quad \begin{array}{c} O \\ \\ R^1-C-NH-CH_2-N^+-R^2 \\ \\ R^2 \end{array}$ <p>(3) (4)</p> </div> </div> <p> R_1 = 10-20 C hydrocarbon; R_2 = 1-5C hydrocarbon; R_3 = -(AO)_n-H; R_4 = 6-18C hydrocarbon,; X = anion; A = alkylene; m, n = 1-10. A INDEPENDENT CLAIM is also included for detergent composition JP 2000297298-A+ </p> </div>

<p>containing the group of high bulk density particles.</p> <p>USE The detergent composition comprising the group of high bulk density particles is suitably useful for washing in any conditions</p> <p>EXAMPLE High bulk density particles was prepared by stirring polyoxyethylene alkyl ether, sodium dodecylbenzene sulfonate, ammonium salt of formula (2), polyethylene glycol and water in a mixer with stirrer and chopper. The particles are coated with crystalline silicate and amorphous aluminosilicate. The group contained 4.6 wt.% group with diameter of at least 710 µm and 3.3 wt.% group with diameter of up to 125 µm. (8pp011DwgNo.0/0)</p>	<p style="text-align: right;">JP 2000297298-A</p>
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PATENT ABSTRACTS OF JAPAN

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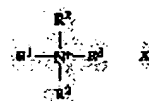
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(54) PARTICLE GROUP WITH HIGH BULK DENSITY

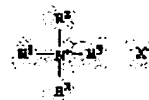
(57) Abstract:

PROBLEM TO BE SOLVED: To obtain particle groups excellent in solubility and detergency under any washing condition by including a specific surfactant and specifying the average particle diameter, the bulk density and the content of the particle group having specified particle diameters.

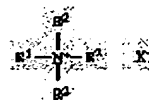
SOLUTION: The objective particle group is obtained by including a surfactant of at least one kind selected from compounds of formulas I to IV [R1 is a 10-20C hydrocarbon group; R2 is a 1-5C hydrocarbon group; R3 is (A0)n-H (A is an alkylene; (n) is 1-10); R4 is a 6-18C hydrocarbon group; X- is an anion; (m) is 1-10], and regulating the particles so that the content of the particle group having 150-500 μm average particle diameter, * 500 g/L bulk density and * 710 μm particle diameters and the content of the particle group having <125 μm particle diameters are respectively * 10 wt.% per the whole high bulk density particle group. The composition of the particle group comprises preferably 5-80 wt.% surfactant, 10-50 wt.% slightly water-soluble inorganic material and 1-20 wt.% water-soluble polymer.



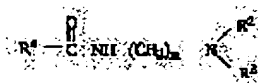
I



II



III



IV

LEGAL STATUS

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